**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1-28. (Canceled)

29. (Currently Amended) A dry method for finishing SOI substrates, said method comprising:

providing an SOI substrate comprising a cleaved surface, said cleaved surface having a first surface roughness value;

performing a hydrogen treatment to increase a concentration of hydrogen of said cleaved surface;

increasing a temperature of an environment associated with said cleaved surface to greater than about 1,000° Celsius ~~and greater~~; and

contacting said cleaved surface with a hydrogen bearing environment at least when said temperature of said environment is greater than about ~~1000°~~ 1,000° Celsius ~~and greater~~ to reduce said first surface roughness value by at least about eighty percent to a second surface roughness value, said hydrogen bearing environment including at least an HCl gas and a hydrogen gas;

whereupon the cleaved surface having the second roughness value is substantially planarized.

30. (Previously Presented) The method of claim 29 wherein the increasing the temperature is provided at a rate of about 10 Degrees Celsius per second and greater.

31. (Previously Presented) The method of claim 29 wherein said first surface roughness value is reduced by at least about ninety percent to the second roughness value.

32. (Previously Presented) The method of claim 29 wherein said HCl gas and said hydrogen gas are a ratio ($HCl:H_2$) of about 0.001 to 30.

33. (Previously Presented) The method of claim 29, wherein said hydrogen gas and the HCl gas interact with said cleaved surface to reduce said surface roughness value.

34. (Previously Presented) The method of claim 29 wherein said first surface roughness value of said cleaved surface is reduced in a thermal processing chamber.

35. (Previously Presented) The method of claim 29 wherein cleaved surface is provided by a controlled cleavage process.

36. (Previously Presented) The method of claim 29 wherein said SOI substrate is fabricated from a donor silicon wafer.

37. (Previously Presented) The method of claim 29 wherein said surface is raised to a temperature of at least about 1,000° Celsius.

38. (Previously Presented) The method of claim 29 wherein said environment is a process chamber wherein said substrate is provided.

39. (Previously Presented) The method of claim 29 wherein the environment is maintained at a pressure of about 1 atmosphere.

40. (Currently Amended) The method of claim 29 wherein said SOI substrate is a wafer whereon a plurality of fabrication processes are performed to define a plurality of transistors on said substantially planarized surface.

41. (Currently Amended) The method of claim 29, wherein said SOI substrate is a wafer having a main surface, said main surface being planarized in its entirety by said increasing a temperature and contacting steps, wherein a plurality of ~~semiconductor dice~~ integrated circuits are fabricated on said planarized main surface.

42. (Currently Amended) A dry method for finishing SOI wafers, said method comprising:

providing an SOI wafer comprising a main surface that has been cleaved, said cleaved main surface having a first surface roughness value;

performing a hydrogen treatment to increase a hydrogen concentration of said cleaved main surface;

increasing a temperature of an environment associated with said cleaved main surface to greater than about 1,000° Celsius ~~and greater~~; and

contacting said cleaved main surface with a hydrogen bearing environment at least when said temperature of said environment is greater than about ~~1000°~~ 1,000° Celsius ~~and greater~~ to reduce said first surface roughness value by at least about eighty percent to a second surface roughness value, said hydrogen bearing environment including at least an HCl gas and a hydrogen gas;

wherein the main surface is substantially planarized in its entirety to the second roughness value, the planarized main surface providing a surface whereon a plurality of ~~semiconductor dice~~ integrated circuits are defined.

43. (New) The method of claim 29 wherein the hydrogen treatment increases the concentration of hydrogen of said cleaved surface to a range of $10^{21}$ and $5 \times 10^{22}$ atoms/cm$^3$.

44. (New) The method of claim 29 wherein the hydrogen treatment comprises at least one of implantation, diffusion, or a combination of implantation and diffusion.

45. (New) The method of claim 29 wherein said temperature of said environment is in the range of 1,000° Celsius and 1,200° Celsius.